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Natural infection by *Eggplant mottled dwarf virus* (EMDV) of vegetable crops in Spain

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Eggplant mottled dwarf virus (EMDV, *Nucleorhabdovirus*, *Rhabdoviridae*) was first reported on eggplant in Italy by Martelli and Cirulli in 1969. Afterwards, it has been found in several countries in Northern Africa, Southern and Central Europe and the Middle East on various crops (tomato, cucumber, pepper, tobacco, potato, muskmelon) and other plant species.

During surveys of viral diseases in open-field pepper-crops conducted in September 1995 and 1997 in Leon (Northwest Spain), unusual virus-like symptoms were observed consisting in deformation of fruits, with discoloured and sllightly-depressed areas, without evident foliar symptoms. Extracts from symptomatic pepper fruits were inoculated mechanically on a wide host range and reactions were similar to those described for EMDV. When plants of *Capsicum annuum* L. 'Yolo Wonder' and 'Doux des Landes' were inoculated, induced symptoms were similar to those observed in the field. Electron microscope examination of crude sap from sytemically infected *Nicotiana tabacum* 'Xanthi nc' revealed the presence of rhabdovirus-like particles.

Similar symptoms on pepper fruits were observed in 2001 in Navarra and in 2002, 2003 and 2005 in the same location in Leon, sometimes accompanied by mild vein-clearing and irregular chlorotic and necrotic spots on the apical leaves. Mechanical inoculations from these samples induced identical reactions on indicator species than those in 1995 and 1997.

In early summer 2010, one cucumber plant grown in a greenhouse at CITA experimental station was found showing growth reduction, vein yellowing and wrinkling on leaves and severe mosaic and deformation on fruits. The plant died three weeks later. Also, several mature tomato fruits from an experimental plot presented severe mosaic and deformations. Sap from these diseased organs was inoculated mechanically on tests plants. Local and systemic symptoms induced in *Gomphrena globosa* and in solanaceous species were similar to those described for EMDV, but somewhat erratic. Often, leaves of systemically-infected plants of *N. glutinosa*, *N. benthamiana* and *N. clevelandii*, became completely chlorotic, necrotic later, and finally plants died. ELISA tests with commercial EMDV polyclonal antiserum (DSMZ) gave positive reactions with extracts from infected indicator-plants and from frozen samples of pepper, cucumber and tomato original-fruits.

EMDV was reported on cucumber and eggplant in mainland Spain by Aramburu et al. (Plant Pathology-2006; 55, 565). Here we report the presence of EMDV infecting pepper, cucumber and tomato.